

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) An isolated nucleic acid encoding a taste transduction G-protein coupled receptor, wherein the ~~nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS~~ receptor comprises an amino acid sequence having at least 80% identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, and wherein the receptor binds to a glutamate ligand, which induces GPCR activity.

2-3. (Canceled)

4. (Original) The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a receptor comprising an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3.

5. (Original) The isolated nucleic acid sequence of claim 1, wherein the nucleic acid comprises a nucleotide sequence of SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6.

6. (Original) The isolated nucleic acid of claim 1, wherein the nucleic acid is from a human, a mouse, or a rat.

7. (Canceled)

8. (Original) The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a receptor having a molecular weight of about between 92 kDa to about 102 kDa.

9-33. (Canceled)

34. (Original) An expression vector comprising the nucleic acid of claim 1.

35. (Original) A host cell transfected with the vector of claim 34.

36-60. (Canceled)

61. (Currently amended) A method of making a taste transduction G-protein coupled receptor, the method comprising the step of expressing the receptor from a recombinant expression vector comprising a nucleic acid encoding the receptor, wherein the ~~nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS~~ receptor comprises an amino acid sequence having at least 80% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, and wherein the receptor binds a glutamate ligand, which induces GPCR activity.

62. (Currently amended) A method of making a recombinant cell comprising a taste transduction G-protein coupled receptor, the method comprising the step of transducing the cell with an expression vector comprising a nucleic acid encoding the receptor, wherein the ~~nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS~~ receptor comprises an amino acid sequence having at least 80% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, and wherein the receptor binds a glutamate ligand, which induces GPCR activity.

63. (Currently amended) A method of making an recombinant expression vector comprising a nucleic acid encoding a taste transduction G-protein coupled receptor, the method comprising the step of ligating to an expression vector a nucleic acid encoding the receptor, wherein the ~~nucleic acid specifically hybridizes under highly stringent conditions to a~~

~~nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS~~ receptor comprises an amino acid sequence having at least 80% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, and wherein the receptor binds a glutamate ligand, which induces GPCR activity.

64. (New) The nucleic acid of claim 1, wherein the receptor comprises an amino acid sequence have at least 90% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3.

65. (New) The method of claim 61, wherein the receptor comprises an amino acid sequence have at least 90% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3.

66. (New) The method of claim 62, wherein the receptor comprises an amino acid sequence have at least 90% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3.

67. (New) The method of claim 63, wherein the receptor comprises an amino acid sequence have at least 90% sequence identity to SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3.